

Improved Track Accuracy for Missile Engagements

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The official link for this solicitation is:

<http://www.acq.osd.mil/osbp/sbir/solicitations/sbir20152/index.shtml>

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Description:

Missile defense performance is dependent on the efficient acquisition, tracking, and discrimination of threatening objects by disparate and geographically dispersed sensors. Precision tracking is a key component for all phases of a missile defense engagement to ensure efficient use of resources and to enhance each component's contribution to the success of such engagements. Candidate solutions should address improvements in track accuracy for interesting objects following a ballistic trajectory, while retaining a robust capability to maintain track continuity, accuracy, and purity, against evolving threats with increasing complexity. The expectation is that any final product from this solicitation will yield improvements in the accuracy of sensor tracking data that will enhance the effectiveness for all missile defense stakeholders whose technologies rely on precision track data. Innovative solutions that utilize real-time, near real-time, and/or hybrid techniques will be considered. Solutions that are adaptable to several radar frequency bands are preferred, but single band solutions will be considered. The radar tracking coefficients, where accuracy improvements are expected, include: measured position and velocity, predictive track propagation (with uncertainty), track correlation, and track purity. PHASE I: Develop and conduct proof-of-principle studies and/or demonstrations of track accuracy techniques and algorithms that are easily adaptable to a wide range of sensors using simulated sensor data. PHASE II: Update/develop algorithms based on Phase I results and demonstrate technology in a realistic environment using data from multiple sensor (as applicable) sources. Demonstrate ability of the techniques and algorithms to work in real-time, high clutter, and/or countermeasure environment. PHASE III: Integrate techniques and algorithms into missile defense systems and demonstrate the overall updated capability. Pursue partnerships with

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DoD system integrators. Commercialization: The contractor will pursue commercialization of the various technologies developed in Phase II for potential commercial and military uses in many areas such as weather radar, air traffic control, or satellite tracking.